

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

Claim 1 (Currently Amended): A method for electrochemically fixing a matrix of deposits of a ligand on a plurality of sites of a conductive carrier or of conductive zones of a carrier, said method including use of an electrode and a carrier laterally movable relative to one another, said electrode being configured to distribute a discrete volume of a solution containing said ligand coupled to an electropolymerisable monomer, said method comprising the steps of:

- a) positioning the electrode above one of said plurality of sites,
- b) distributing with the electrode on said one of said plurality of sites said discrete volume of a solution and simultaneously circulating an electric current from said electrode to said site to polymerize said electropolymerisable monomer so as to electrochemically fix the ligand on said one of said plurality of sites,
- ~~e) electrochemically fixing the ligand on said one of said plurality of sites, and~~
- d) repositioning the electrode over another of said plurality of sites, and
- e) repeating said steps of distributing and simultaneously circulating an electrical current electrochemically fixing so as to form said matrix.

Claim 2 (Previously Presented): The method according to claim 1, wherein the electrode comprises:

- a reservoir containing the solution , and
- a conductive part.

Claim 3 (Previously Presented): The method according to claim 2, wherein the reservoir comprises:

means for filling said reservoir with said solution and evacuating said solution from said reservoir.

Claim 4 (Previously Presented): The method according to claim 1, wherein the electrode comprises one of a wire electrode and a needle electrode configured to be charged externally with said solution of ligand coupled to the electropolymerisable monomer, and

said step of distributing comprises establishing a contact between the one of a wire electrode and a needle electrode and the one of said plurality of sites by a drop of said solution withheld on the one of a wire electrode and a needle electrode.

Claims 5 - 7 (Cancelled):

Claim 8 (Previously Presented): The method according to claim 1, wherein the conductive zones of a carrier are formed of zones of conductive material arranged on an insulating carrier.

Claim 9 (Previously Presented): The method according to claim 8, wherein the zones of conductive material are electrically interconnected.

Claim 10 (Cancelled):

Claim 11 (Previously Presented): The method according to claim 8, wherein the plurality of conductive zones comprises:

a conductive material chosen from the group consisting of gold, silver, platinum, indium and tin oxide (ITO), carbon, and conductive organic polymers.

Claim 12 (Previously Presented): The method according to claim 1, wherein the solution comprises:

a doping agent.

Claim 13 (Previously Presented): The method according to claim 1, wherein the electropolymerisable monomer is pyrrole.

Claim 14 (Previously Presented): The method according to claim 1, wherein the step of electrochemically fixing the ligand comprises:

fixing the ligand by electro-copolymerisation of both the electropolymerisable monomer and the ligand coupled to the electropolymerisable monomer.

Claim 15 (Previously Presented): The method according to claim 1, wherein the ligand comprises:

one of a nucleotide, an oligonucleotide, an amino acid, and a peptide.

Claims 16-19 (Cancelled)

Claim 20 (Currently Amended): A method for producing a matrix of deposits of different ligands electrochemically fixed on a plurality of sites of a conductive carrier or of

conductive zones of a carrier, each site configured to receive a predetermined one of a plurality of different ligands, said method including the use of several electrodes and a carrier movable relative to one another, said electrodes configured to distribute a discrete volume of one of a plurality of solutions, each of said plurality of solutions containing one of a plurality of ligands coupled to an electropolymerisable monomer, said method comprising the steps of:

a) simultaneously or successively positioning two or more of said several electrodes above a corresponding two or more of said plurality of sites,

b) distributing on each of said two or more of a plurality of sites said discrete volume of one of a plurality of solutions, and simultaneously circulating an electric current to said one of a plurality of sites to polymerize the electropolymerisable monomer within said one of a plurality of solutions so as to electrochemically fix the ligand within said one of a plurality of solutions on said two or more of said plurality of sites,

~~e) electrochemically fixing the ligand within said one of a plurality of solutions on said two or more of said plurality of sites, and~~

d) repositioning said two or more of said several electrodes above a second corresponding two or more of said plurality of sites over another of said plurality of sites, and

e) repeating said steps of distributing and simultaneously circulating and electric current ~~electrochemically fixing~~ so as to form said matrix.

Claim 21 (Previously Presented): The method according to claim 20, wherein said two or more of said several electrodes comprises:

at least two electrodes arranged together in a print head.

Claim 22 (Previously Presented): The method according to claim 20, wherein each of said several electrodes comprises:

a reservoir configured to contain said discrete volume, and
a conductive part.

Claim 23 (Previously Presented): The method according to claim 22, wherein the reservoir comprises:

means for filling said reservoir with said solution and evacuating said solution from said reservoir.

Claim 24 (Previously Presented): The method according to claim 20, wherein each of said plurality of several electrodes comprises one of a wire electrode and a needle electrode configured to be charged externally with said solution of ligand coupled to the electropolymerisable monomer, and

said step of distributing comprises establishing a contact between the one of a wire electrode and a needle electrode and a corresponding site by a drop of said solution withheld on the one of a wire electrode and a needle electrode.

Claim 25 (Previously Presented): The method according to claim 20, wherein the conductive zones of the carrier are formed of zones of a conductive material arranged on an insulating carrier.

Claim 26 (Previously Presented): The method according to claim 25, wherein the zones of the conductive material are electrically interconnected.

Claim 27 (Previously Presented): The method according to claim 25, wherein the conductive material is chosen from the group consisting of gold, silver, platinum, indium and tin oxide (ITO), carbon, and conductive organic polymers.

Claim 28 (Previously Presented): The method according to claim 20, wherein each of said plurality of solutions comprise:

a doping agent.

Claim 29 (Previously Presented): The method according to claim 20, wherein the electropolymerisable monomer is pyrrole.

Claim 30 (Previously Presented): The method according to claim 20, wherein the step of electrochemically fixing the ligand comprises:

fixing the ligand by electro-copolymerization of both the electropolymerisable monomer and the ligand coupled to the electropolymerisable monomer.

Claim 31 (Previously Presented): The method according to claim 20, wherein the ligands are chosen from the group consisting of nucleotides, oligonucleotides, amino acids and peptides.